NORTH CAROLINA DIVISION OF AIR QUALITY

Air Permit Review

Permit Issue Date:

Region: Winston-Salem Regional Office
County: Surry
NC Facility ID: 8600108
Inspector's Name: Robert Barker
Date of Last Inspection: 05/25/2016
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Weyerhaeuser NR Company - Elkin Facility

Facility Address:
Weyerhaeuser NR Company - Elkin Facility
524 Pride Way
Elkin, NC 28621

SIC: 2439 / Structural Wood Members, Nec
NAICS: 321213 / Engineered Wood Member (except Truss) Manufacturing

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 02D .0503, 02D .0504, 02D .0512, 02D .0515, 02D .0516, 02D .0521, 02D .0524, 02D .0530, 02D .0614, 02D .0958, 02D .1100, 02D .1111, 02D .1806, 02Q .0317
NSPS: N/A
NESHAP: N/A
PSD: N/A
PSD Avoidance: 02D .0530(u)
NC Toxics: N/A
112(r): N/A
Other: TV Permit Renewal

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Dennis Atkinson Environmental Manager (336) 526-6437 524 Pride Way Elkin, NC 28621	Debbie Tadlock Facility Manager (336) 526-6482 524 Pride Way Elkin, NC 28621	Dennis Atkinson Environmental Manager (336) 526-6437 524 Pride Way Elkin, NC 28621

Application Data

Application Number: 8600108.16A, 8600108.16B
Date Received: 07/01/2016, 08/08/2016
Application Type: Renewal, Part II Significant Modification.
Application Schedule: TV-Renewal

Existing Permit Data
Existing Permit Number: 05678/T43
Existing Permit Issue Date: 10/02/2015
Existing Permit Expiration Date: 03/31/2017

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2015	1.62	35.92	350.78	369.37	174.59	72.20	23.59 [Methanol (methyl alcohol)]
2014	1.63	37.81	366.06	386.00	188.74	75.51	24.64 [Methanol (methyl alcohol)]
2013	1.82	39.40	374.43	395.28	192.31	77.28	25.26 [Methanol (methyl alcohol)]
2012	1.52	38.78	341.27	385.22	187.96	75.00	24.51 [Methanol (methyl alcohol)]
2011	9.42	34.46	285.65	323.55	160.94	64.45	20.59 [Methanol (methyl alcohol)]

Review Engineer: Betty Gatano

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue 05678/T44
Permit Issue Date:
Permit Expiration Date:

1. Purpose of Application

Weyerhaeuser NR Company - Elkin Facility (Weyerhaeuser-Elkin) currently holds Title V Permit No 05678T43 with an expiration date of March 31, 2017 for an oriented strand board (OSB) manufacturing facility in Elkin, Surry County, North Carolina. Air Permit Application No. 8600108.16A for permit renewal was received on July 1, 2016, or at least nine months prior to the expiration date, as required by General Permit Condition 3.K. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

Air Permit Application No. 8600108.16B was received on August 8, 2016. The permit application serves as the "Part 2" application of the two-step significant modification pursuant to 15A NCAC 02Q .0501(c)(2) and was submitted on or before 12 months after commencing operation (i.e., restart) of OSB press (ID No. 4301). The "Part 2" application will be consolidated and processed with the application for TV permit renewal.

2. Facility Description

Weyerhaeuser-Elkin manufactures OSB at its facility in Elkin, NC. The OSB manufacturing process consists of raw material handling and preparation, drying, blending with resin, forming, pressing, and finishing.

Logs are delivered to the log yard and are fed to two debarker units (ID Nos. 1134 and 1414), where the bark is removed. The debarked logs are then feed into a stander and sliced into thins strands, which are stored in wet (green) strand bins. The bark, which has been removed from the logs, is hogged and used as fuel to provide heat for the dryers, press, and buildings. Excess bark is sold for fuel or landscaping materials.

The green strands (also called flakes) are pulled into three rotary drum dryers (ID Nos. 1611, 1621, and 1631). Each dryer system is equipped with a suspension burner (ID No. 3811, 3821, and 3831, respectively) and a backup burner. Both burners are direct fired. Exhaust from three wet cells (ID Nos. 3311, 3321, and 3331) also provides heat to the dryers to assist in drying the strands. Exhaust from each dryer is vented to a primary cyclone (ID Nos. 1611-150, 1621-150, and 1632-150, respectively) to separate product from the exhaust airstream. The exhaust streams from the dryers are combined and vented to a wet electrostatic precipitator (WESP) (ID No. 3450) for particulate emission control and a regenerative thermal oxidizer (RTO) (ID No. 3460) for VOC emission control.

The dry strands are conveyed to rotary screens; sorted into fines, smaller strands, and larger strands; and stored in dry strand storage bins. The separated fines are used as fuel for the dryers. The larger strands are used in the surface layers of the OSB, and the smaller strands are used in the core layers. The dry, separated strands are then metered from the storage bins into a rotary-type blender. Wax and phenolic resin are sprayed onto the surface strands, and methylene diphenyl diisocyanate (MDI) resin is sprayed onto the core strands.

The coated strands are laid down in four layers with the surface strands oriented parallel to the production line and the core strand oriented perpendicular to the production line. The layers form a continuous mat, which is cut to 16 feet lengths and weighed before being conveyed to the OSB press (ID No. ES 4301). The OSB press cures the resin to form stable panels, which are cut to size, inspected, edge trimmed, and packaged on the finishing line. Exhaust from the OSB press is controlled via a biofilter (ID No. 3470).

Weyerhaeuser-Elkin is also permitted for numerous insignificant activities, engines (ID Nos. TOSEG, 5000-100, and 4763-100), and a waste water treatment system (ID Nos. 3-WP, 12-SA, and 3-SA).

Finally, more detailed discussion of the three wet cells (ID Nos. 3311, 3321, and 3331) is warranted. The wet cells are permitted to fire wood, alternative fuel, kerosene, fuel oil, and natural gas. They are primarily used to heat oil in indirect heat exchangers, which provide heat for the OSB press (ID No. 4301).

The wet cells have two operating modes. In both operating modes, the wet cells are used to provide heat for the OSB press. In the Primary Operating Mode, exhaust from the wet cells provide additional heat to the rotary drum dryers, and exhaust from the dryers is controlled via a cyclone (one on each dryer), the WESP, and the RTO as noted above. In the Dryer Bypass Mode (formerly called Alternative Operating Mode), the dryers are not in operation. Exhaust from the three wet cells (ID Nos. 3311, 3321, and 3331) bypasses the dryers and is controlled by a multicyclone (ID Nos. 3340-100, 3340-200, and 3340-300, respectively) before venting to the atmosphere.

Not to be confused with the operating modes, the wet cells also have two operating scenarios. The wet cells fire wood, alternative fuel, kerosene, fuel oil, and/or natural gas in the Primary Operating Scenario (POS), while the wet cells fire only alternative fuel, kerosene, fuel oil, and natural gas in the Alternative Operating Scenario (AOS). Dennis Atkinson, plant contact, indicated the facility rarely uses the AOS. The wet cells can operate in both operating modes (i.e., either exhausting to the dryers or bypassing the dryers) using either operating scenario (i.e., POS or AOS).

Under this permit renewal/modification, the term "Alternative Operating Mode" was changed to "Dryer Bypass Mode" in the permit to more accurately reflect the operation of the wet cells. The term "Dryer Bypass Mode" will be used throughout the remainder of this permit review.

3. History/Background/Application Chronology

Permit History since Last TV Permit Renewal

April 27, 2012	TV permit renewed. Air Permit No. 05678T37 was issued on April 27, 2012 with an expiration date of March 31, 2017. The TV permit application also served as fulfilment of the requirement to submit a Title V air quality permit application on or before 12 months of commencing operation of any of the following: biofilter (ID No. 3470), dryers (ID Nos. 1611 and 1621), WESP (ID No. 3450), suspension burners (ID Nos. 3811, 3821, and 3831), or the tongue and groove machine (ID No. B2811).
June 28, 2012	Air Permit No. 05678T38 was issued as a significant modification. Under this permit, an additional maintenance activity was incorporated into the Routine Control Device Maintenance Exemption (RCDME), as allowable under 40 CFR 63 Subpart DDDD at 40 CFR 63.2251.
May 1, 2013	Air Permit No. 05678T39 was issued as minor modification to incorporate a MACT Subpart ZZZZ compliance date extension.
October 2, 2013	Air Permit No. 05678T40 was issued as a significant modification to correct the heat input descriptors for the drum dryers; to remove NC Air Toxics

emission limits for MACT-affected sources; and to update the WESP CAM Plan.

August 29, 2014 — Air Permit No. 05678T41 was issued as an administrative amendment to revise the temperature ranges of the RTO (ID No. 3460) and the biofilter (ID No. 3470).

November 26, 2014 — Air Permit No. 05678T42 was issued as a minor modification to replace the wood yard hog (ID No. 1100-306) with a new unit and to replace two existing cyclones with two new larger cyclones (ID Nos. 2821-301 and 2821-401) on the OSB finishing operations.

October 2, 2015 — Air Permit No. 05678T43 was issued as a "Part 1" significant modification to address maintenance work on the OSB press (ID No. 4301). The modification was deemed significant because Weyerhaeuser-Elkin expected an increase in utilization in the press after repairs. An analysis of projected actual emissions under 15A NCAC 02D .0530(u) was performed, and the limits were incorporated into the permit.

Application Chronology

July 1, 2016 — Received application for permit renewal (Application No. 8600108.16A).

July 1, 2016 — Sent acknowledgment letter indicating that the application for permit renewal was complete.

July 15, 2016 — Robert Barker of the Winston-Salem Regional Office (WSRO) submitted comments on the permit renewal application. Mr. Barker had comments on several pieces of equipment at the facility. Dennis Atkinson of Weyerhaeuser-Elkin provided comments on the equipment changes, as discussed below:

- The facility has a 100-gallon kerosene tank and three 175 gallon (each) recycled oil tanks on-site not listed on the permit. Mr. Barker requested these tanks be added to the insignificant activities list. Weyerhaeuser-Elkin indicated these tanks do not require permitting as per 15A NCAC 02Q.0102(g)(4), "storage tanks with no applicable requirements," and requested they not be included on the insignificant activities list. However, this exemption does not apply to Title V facilities. The tanks will be added as discussed in the e-mail sent on October 20, 2016.
- Debarking unit (ID No. 1134) has been decommissioned and is no longer used by the facility. Mr. Barker requested this emission source be removed from the permit. Weyerhaeuser-Elkin concurred and indicated this equipment has been removed from plant site and should be removed from the permit.
- The post wet operation (I-PWO) in the insignificant list has been removed from the facility and should be removed from the permit. Weyerhaeuser-Elkin indicated they currently do not use a post wet system and requested this equipment remain on the permit in case it is

	needed in the future. The unit will remain on the permit as requested by the facility.
August 8, 2016	Received application for a "Part 2" significant modification (Application No. 8600108.16B).
August 10, 2016	Sent acknowledgment letter indicating that the application for permit modification was complete.
September 2, 2016	Betty Gatano sent an e-mail to Dennis Atkinson of Weyerhaeuser-Elkin discussing the applicability of the wet cells (ID Nos. 3311, 3321, and 3331) to MACT Subpart DDDDD during the Dryer Bypass Mode.
September 8, 2016	Dennis Atkins replied to the e-mail, justifying reasons the wet cells are NOT subject to MACT Subpart DDDDD.
September 19, 2016	Upon reviewing the response and discussing the response internally, DAQ is in agreement the wet cells are not subject to MACT Subpart DDDDD. Betty Gatano sent an e-mail to Dennis Atkins specifying the DAQ is in agreement with Weyerhaeuser-Elkin's position. (See detailed discussion in Section 7 below.)
September 22, 2016	Draft permit and permit review forwarded for comment.
September 27, 2016	Mark Cuilla, Permitting Supervisor, provided comments.
September 28, 2016	Samir Parekh of the SSCB provided comments.
October 18, 2016	Dennis Atkinson provided comments.
October 18, 2016	Betty Gatano e-mailed Dennis Atkinson regarding the tanks to be added to the insignificant activities list. Mr. Atkinson replied with listing of tanks on October 20, 2016.
October 25, 2016	A second version of the draft permit and permit review forwarded for comments. Additional comments received were incorporated into the draft permit.
October 31, 2016	Draft permit and review sent to public notice.

4. Permit Modifications/Changes and TVEE Discussion

Because of its length, the table of changes is provided in Attachment 1. The following changes were made to the Title V Equipment Editor (TVEE):

- Removed debarking unit (ID No. 1134). This unit has been decommissioned and is no longer used by the facility. It will be removed from the permit under this permit renewal/modification.

- Modified the emission descriptions of the wet cells (ID Nos. 3311, 3321, and 3331) to reflect the name change of the operating mode.
- Updated the hydraulic oil storage tanks on the insignificant activities list by adding a tank in the finishing operations and one in the woodroom, 380 gallons each (ID No. I-HOST).
- Added four used oil storage tanks used throughout the mill, 260 gallons each (ID No. I-UOS) to the insignificant activities list.

5. "Part 2" Application for modification of the OSB (ID No. 4301)

Air Permit No. 05678T43 was issued to Weyerhaeuser-Elkin on October 2, 2015 to address maintenance work on the OSB press (ID No. 4301). The modification was listed as a 15A NCAC 02Q .0501(c)(2) modification, and the facility was required to submit a Title V Air Quality Permit Application on or before 12 months after commencing operation. The OSB press restarted on October 27, 2015, and this permit requirement was fulfilled with the receipt of Air Permit Application 8600108.16B on August 8, 2016.

As discussed in the permit review for Air Permit No. 05678T43[1] Weyerhaeuser-Elkin expected some increase in utilization after the OSB press was refurbished. Press utilization was anticipated to increase by 2% over 2014 levels. A baseline evaluation of press production was conducted looking back over the previous ten years, and the highest period of production was the 24-month period of 2006 and 2007. Therefore, the baseline calculations were determined as the average of 2006 and 2007 (average baseline production of about 398 million square feet, MMSF). The highest month of press production (36,078,000 square feet, August 2007) was annualized to demonstrate what the press Could Have Accommodated (CHA) prior to the repairs. As a conservative assumption, Weyerhaeuser-Elkin based the projected actual emissions on a 5% increase over the CHA production for all sources but the press. The projected actual emissions (PAE) for the press were based on the permitted production limit of 450 MMSF. An applicability determination analysis under Prevention of Significant Deterioration (PSD) demonstrated that none of the significant emission rates for the PSD regulated pollutants was exceeded.

The facility used PAE to demonstrate that the modification did not trigger a Best Available Control Technology (BACT) analysis in accordance with 15A NCAC 02D .0530(u). For compliance with this rule, the facility must maintain records of actual emissions for five years. The actual emissions on a calendar basis cannot exceed the projected actual, which are provided below.

Pollutant	Projected Actual Emissions, tpy
CO	601
NO_x	56
PM	233
PM-10	216
PM-2.5	201
SO_2	1.8
VOC	687

Pollutant	Projected Actual Emissions, tpy
Lead	9.97E-03
H_2SO_4	6.95E-04
CO_2	70,348
CH_4	8.9
N_2O	4.3
CO_2e	71,853

Weyerhaeuser-Elkin has not yet operated an entire year after restart of the OSB press. Based on the actual emissions provided in the header of this permit review, the facility is not expected to exceed the projected actual emissions.

[1] Joseph Voelker (10/02/2015).

6. Regulatory Review

Weyerhaeuser-Elkin is subject to the following regulations. The permit will be updated to reflect the most current stipulations for all applicable regulations.

- 15A NCAC 02D .0503, "Particulates from Fuel Burning Indirect Heat Exchangers" – The wet cells (ID Nos. 3311, 3321, and 3331) are indirect heat exchangers and are subject to 02D .0503 when firing natural gas, kerosene, No. 2 fuel oil, and alternative fuels (i.e., the Alternative Operating Scenario or AOS). Allowable particulate matter (PM) emissions are determined from the equation $E = 1.090(Q)^{-0.2594}$, where E equals the allowable emission limit for PM in pounds per million Btu and Q equals the maximum heat input in million Btu per hour. With a Q of 65 million Btu/hr (20 +20 + 25 million Btu/hr),[2] the allowable PM emissions from these boilers equal 0.37 pounds per million Btu. The permit specifies a value of 0.369 pounds per million Btu, and this value will be rounded correctly under this permit renewal/modification.

  Based on emission factors for fuels burned in the wet cells, the maximum PM emissions expected are provided as follows:
  - No. 2 fuel oil (assume kerosene is the same as worst case estimate) - 0.024 pounds per million Btu based on an emission factor for PM of 3.3 pounds per 10^3 gallons and a fuel heating value of 140,000 Btu/gallon.[3]
  - Alternative fuels (assume No. 6 fuel oil emission factors as a worst case estimate) – 0.16 pounds per million Btu based on an emission factor for PM of 24.0 pounds per 10^3 gallons and a fuel heating value of 150,000 Btu/gallon.[3]
  - Natural gas – 0.007 pounds per million Btu as provided in the spreadsheet.[4]

  No monitoring, reporting, or reporting are required when firing these fuels in the wet cells. No other changes to the permit are required under this renewal/modification. Continued compliance is anticipated.

- 15A NCAC 02D .0504, "Particulates from Wood Burning Indirect Heat Exchangers" – The wet cells (ID Nos. 3311, 3321, and 3331) are indirect heat exchangers and are subject to 02D .0504 when firing wood or wood products alone or in combination with natural gas, kerosene, No. 2 fuel oil, and alternative fuels (i.e., the Primary Operating Scenario or POS). When burning wood only, allowable PM emissions are determined from the equation $E = 1.1698(Q)^{-0.2230}$, where E equals the allowable emission limit for PM in pounds per million Btu and Q equals the maximum heat input in million Btu per hour. With a Q of 75 million Btu per hour for wood (25 million Btu/hr, each),[5] the PM emission limit for the wood fired boiler is 0.45 pounds per million Btu. When burning wood in combination with other permitted fuels, allowable PM emissions are determined from the following equation:

[2] Wet cells Nos. 1 and 2 (ID Nos. 3311 and 3321) have a maximum heat input of 20 million Btu per hour when firing kerosene/fuel oil/natural gas. Wet cell No. 3 (ID No. 3331) has a maximum heat input of 25 million Btu per hour when firing wood/kerosene/fuel oil/natural gas/ alternative fuel.
[3] Emission factor for No. 6 fuel oil is from the DAQ's "Fuel Oil Combustion Emission Calculator Revision E" (02/01/2010).
[4] Natural gas emission factor is from the DAQ's "Natural Gas Combustion Emission Calculator Revision K" (06/19/2012).
[5] Wet cells Nos. 1, 2, and 3 (ID Nos. 3311, 3321, and 3331) have a maximum heat input of 25 million Btu per hour when firing wood/kerosene/fuel oil/natural gas/ alternative fuel.

$E = [(0.45)(Qw) + (0.39)(Qo)]/(Qt)$

Where: E = allowable emission in pounds per million Btu
Qw = actual wood heat input rate in million Btu per hour
Qo = actual other fuel heat input rate in million Btu per hour
Qt = Qw + Qo

Weyerhaeuser-Elkin complies with 02D .0504 by following the monitoring, recordkeeping and reporting requirements for BACT for the wet cells as specified in Permit Section 2.1 A.7. Minor changes were made to the permit condition for clarity. Continued compliance is anticipated.

- 15A NCAC 02D .0512, "Particulates from Miscellaneous Wood Products Finishing Plants" – The OSB finishing operations (ID Nos. B2801, B2811, B2831, B2841, B2807, and B2627) are subject to 02D .0512. Weyerhaeuser-Elkin complies with 02D .0512 by following the monitoring, recordkeeping and reporting requirements for BACT for OSB finishing operations as specified in Permit Section 2.1 C.3. Minor changes were made to the permit condition for clarity. Continued compliance is anticipated.

- 15A NCAC 02D .0515, "Particulates from Miscellaneous Industrial Processes" – The drum dryers (ID Nos. 1611, 1621, and 1631) and the suspension burners (ID Nos. 3311, 3321, and 3331) are direct fired and are subject to 02D .0515. Allowable emissions of PM are calculated from the following equations:

$E = 4.10 \times P^{0.67}$ for units with process weight rate less than 30 tons per hour
Or
$E=55.0(P)^{0.11}- 40$ for units with process weight rates greater than 30 tons per hour

where:
E = allowable emission rate in pounds per hour calculated to three significant figures
P = process weight rate in tons per hour

The facility complies with 02D .0515 by following the monitoring, recordkeeping, and reporting requirements for BACT under Section 2.1 A.7. The permit was updated to clarify the requirements. Continued compliance is anticipated.

- 15A NCAC 02D .0516, "Sulfur Dioxide Emissions from Combustion Sources" – The following emission sources are subject to 02D .0516:
  - Drum dryers (ID Nos. 1611, 1621, and 1631) – permitted to fire kerosene, fuel oil, and natural gas.
  - Suspension burners (ID Nos. 3811, 3821, and 3831) – permitted to fire wood, kerosene, fuel oil, and natural gas.
  - Wet cells Nos. 1 and 2 (ID Nos. 3311 and 3321) – permitted to fire wood, alternative fuels, natural gas, fuel oil, and natural gas.
  - Regenerative thermal oxidizer (ID No. 3460) – natural gas-fired.
  - Thermal Oil System Emergency Generator (ID No. TOSEG) – permitted to fire diesel.
  - A fire water pump engine (ID No. 5000-100) and a standby generator engine (ID No. 4763-100) – permitted to fire diesel and kerosene.

No monitoring, recordkeeping, or reporting is required when firing the permitted fuels in these combustion sources because of the low sulfur content of the fuels. These fuels are inherently low enough in sulfur that continued compliance is expected.

- 15A NCAC 02D .0521, "Control of Visible Emissions" – The following equipment was manufactured and operating after July 1, 1971 and must not have visible emissions of more than 20 percent opacity when averaged over a six-minute period, except as specified in 15A NCAC 02D .0521(d):
  - Drum dryers (ID Nos. 1611, 1621, and 1631), suspension burners (ID Nos. 3811, 3821, and 3831), and wet cells (ID Nos. 3311, 3321, and 3331) - The facility complies with 02D .0521 by following the monitoring, recordkeeping, and reporting requirements for BACT under Section 2.1 A.7.
  - OSB press (ID No. 4301) - The facility complies with 02D .0521 by following the monitoring, recordkeeping, and reporting requirements for BACT under Section 2.1 B.3.
  - OSB finishing operations (ID Nos. B2801, B2811, B2831, B2841, B2807, and B2627) - The facility complies with 02D .0521 by following the monitoring, recordkeeping, and reporting requirements for BACT under Section 2.1 C.3.
  - Thermal oil system emergency generator (ID No. TOSEG), a fire water pump engine (ID No. 5000-100) and a standby generator engine (ID No. 4763-100) – No monitoring, recordkeeping or reporting is required for compliance with 02D .0521.

  The permit was updated to clarify the facility complies with 02D .0521 by complying with BACT requirements, where appropriate. Continued compliance is anticipated.

- 15A NCAC 02D .0524, "New Source Performance Standards" – Wet Cell No. 3 (ID No. 3331) is subject to the NSPS for "Small Industrial-Commercial-Institutional Steam Generating Units," 40 CFR 60 Subpart Dc. More discussion is provided in Section 7.

- 15A NCAC 02D .0530, "Prevention of Significant Deterioration" – Weyerhaeuser-Elkin has undergone BACT analyses for its drum dryers (ID Nos. 1611, 1621, and 1631), suspension burners (ID Nos. 3811, 3821, and 3831), wet cells (ID Nos. 3311, 3321, and 3331), OSB press (ID No. 4301), OSB finishing operations (ID Nos. B2801, B2811, B2831, B2841, B2807, and B2627), and engines (ID Nos. 5000-100 and 4763-100). More discussion on PSD is provided in Section 7.

- 15A NCAC 02D .0530(u), "Use of Projected Actual Emissions to avoid Applicability to PSD Requirements" – Weyerhaeuser-Elkin has previously used PAE to demonstrate that several projects at the facility would not result in an exceedance of a significant emission rate, as allowed under 15A NCAC 02D .0530(u). More discussion of these projects and 15A NCAC 02D .0530(u) is provided in Section 7.

- 15A NCAC 02D .0614, "Compliance Assurance Monitoring" – The drum dryers (ID Nos. 1611, 1621, and 1631), suspension burners (ID Nos. 3811, 3821, and 3831), wet cells (ID Nos. 3311, 3321, and 3331), and the OSB finishing operations (ID Nos. B2801, B2811, B2831, B2841, B2807, and B2627) are subject to CAM. More discussion is provided in Section 7.

- 15A NCAC 02D .0958, "Work Practices for Sources of Volatile Organic Compounds (VOC)" – The facility is subject to 02D .0958. This regulation is applicable facility-wide. No changes are needed under this permit renewal/modification, and continued compliance is anticipated.

- 15A NCAC 02D .1100, "Control of Toxic Air Pollutants" – Several non-MACT-affected sources are subject to 02D .1100. More discussion on NC Air Toxics is provided in Section 8.

- 15A NCAC 02D .1111 "Maximum Achievable Control Technology (MACT)" – The facility is subject to the following MACTs. More discussion on these MACTs is provided in Section 7.
  - "NESHAP for "Plywood and Composite Wood Products," 40 CFR Part 63 Subpart DDDD.
  - "NESHAP for "Reciprocating Internal Combustion Engines (RICE)," 40 CFR 63 Subpart ZZZZ.

- 15A NCAC 02D .1806, "Control and Prohibition of Odorous Emissions" – This condition is applicable facility-wide and is state-enforceable only. No changes are needed under this permit renewal, and continued compliance is anticipated.

- 15A NCAC 02Q .0317, "Avoidance Conditions" – Weyerhaeuser-Elkin has accepted avoidance conditions for 02D .0530 for VOC and SO_2. More discussion on PSD avoidance is provided under Section 7.

- 15A NCAC 02Q .0711, Emission Rates Requiring a Permit –The facility is subject for numerous toxic air pollutants (TAPs). This rule is state-enforceable only. More discussion on NC Air Toxics is provided in Section 8.

7. NSPS, NESHAPS/MACT, NSR/PSD, 112(r), CAM

NSPS

Wet cell No. 3 (ID No. 3331) is subject to the "NSPS for Small Industrial, Commercial, Institutional Steam Generating Units," 40 CFR Part 60 Subpart Dc. This subpart applies to boilers[6] constructed, modified, or reconstructed after June 9, 1989 and have a maximum design heat input capacity > 10 million Btu per hour and < 100 million Btu per hour. The requirements for boilers subject to NSPS Subpart Dc vary based on the size of the boiler and fuel type fired. Only boilers with a heat capacity of 30 million Btu per hour or greater are subject to the particulate matter and opacity standards. Wet Cell No. 3 is not subject to these standards because it has a maximum heat input of 25 million Btu/hr. However, wet cell No. 3 is subject to the SO_2 requirements as discussed below:

- Sulfur Dioxide: The maximum sulfur content of any fuel oil received and fired in Wet Cell No. 3 shall not exceed 0.5 percent by weight. To demonstrate compliance with this standard, Weyerhaeuser-Elkin is required to retain copies of each fuel supplier certification, including the sulfur content of the oil (in percent by weight). The facility is also required to submit a semiannual report summarizing the monitoring activities (January 30th and July 30th).

The facility must also record monthly fuel usages. No changes to the permit are required under this permit renewal/modification, and continued compliance is anticipated.

NESHAPS/MACT

The facility is a major source of hazardous air pollutants (HAPS), and MACT regulations apply to Weyerhaeuser-Elkin as discussed in this section.

[6] Although the term boiler is used here, 40 CFR 60 Subpart Dc applies to any steam generating unit, which means a device that combusts any fuel and produces steam or heats water or heats *any heat transfer medium*. Wet cell No. 3 meets this definition.

MACT Subpart DDDD

The "NESHAP for Plywood and Composite Wood Products" (PCWP or MACT Subpart DDDD), 40 CFR 63 Subpart DDDD applies to facilities that are major sources of HAPS and produce plywood and/or composite wood products by bonding wood material (fibers, particles, strands, veneers, etc.) or agricultural fiber, generally with resin under heat and pressure, to form a structural panel or engineered wood product. Weyerhaeuser-Elkin meets this definition and is subject to the PCWP MACT.

Detailed permit requirements for the PCWP MACT were added to the permit under Air Permit No. 05678T37, issued on April 27, 2012. A detailed regulatory analysis for PCWP MACT is provided in the permit review for that permit.[7] The following table provides a summary of the compliance options for the PCWP MACT.

Emission Unit	Control Device	Compliance Options
Drum Dryers (ID Nos. 1611, 1621, and 1631) Suspension burners (ID Nos. 3811, 3821, and 3831) Wet Cells (ID Nos. 3311, 3321, and 3331) in Primary Operating Mode	Regenerative thermal oxidizer (ID No. 3460)	Reduce emissions of total HAP, measured as THC (as carbon) a, by 90 percent; or Reduce methanol emissions by 90 percent; or Reduce formaldehyde emissions by 90 percent
OSB Press (ID No. 4301)	Biofilter (ID No. 3470)	
Notes: Additional compliance options are specified in MACT Subpart DDDD. However, Weyerhaeuser-Elkin has elected to use add-on control devices to demonstrate compliance.		

The compliance date with the PCWP MACT was October 1, 2008. However, Weyerhaeuser-Elkin previously obtained a schedule of compliance to address issues with the biofilter and extended the compliance date until July 1, 2009, with the final compliance test report and compliance certification due by October 1, 2009.

The PCWP MACT requires initial performance testing on the RTO and the biofilter. No additional performance testing was required for the RTO beyond the initial testing. However, the PCWP MACT requires the biofilter to be tested more often. Specifically, the PCWP requires testing every 2 years following the previous performance test. Testing is also required within 180 days after each replacement of any portion of the biofilter bed media with a different type of media or each replacement of more than 50 percent (by volume) of the biofilter bed media with the same type of media. The results of the initial testing of the RTO and the most recent testing of the biofilter are provided in the table below and demonstrate compliance with the PCWP MACT. Continued compliance with these limits as well as the all monitoring, recordkeeping, and reporting requirements under the PCWP MACT is anticipated.

[7] Joseph Voelker (04/27/2012).

Control Device	Test Date	Destruction Efficiency	Compliance Limit	Compliance Indicated?
RTO (ID No. 3460)	October 28, 2008	94% (Total HAP measured as THC)	90%	Yes
Biofilter (ID No. 3470)	June 4, 2015	99.3% (formaldehyde)	90%	Yes

Notes:
- The results of the October 2008 testing were approved by Paula Hemmer of SSCB and summarized in a memoranda dated April 1, 2009.
- The results of the June 2015 testing were approved by Gary Saunders of SSCB and summarized in a memoranda dated October 28, 2015.

Weyerhaeuser-Elkin previously established a minimum operating temperature for the RTO (3-hour block averages) and temperature ranges for the biofilter (24-hour block averages). The temperatures of these controlled devices must be monitored and recorded continually. The facility must also develop a startup, shutdown, and malfunction (SSM) plan and follow it as appropriate. Temperatures recorded during SSM events are not to be included in the temperature block averages.

The OSB finishing operations (ID Nos. B2801, B2811, B2831, B2841, B2807, and B2627) are also subject to the PCWP MACT because the MACT is applicable to miscellaneous finishing operations, such as sanding, sawing, patching, edge sealing, and other finishing operations not subject to other NESHAPs. These emission sources have no compliance options or work practice standards under the PCWP MACT. As specified under 40 CFR 63.2252, emission sources with no compliance options or work practice standards have no requirements under the PWCP MACT, except for initial notification.

The PCWP MACT has not changed since the conditions were initially added to the permit, and no substantive changes to the permit condition were required under this permit renewal/modification. The permit was updated to correct typographical errors and to correct outline numbering. Continued compliance is anticipated.

MACT Subpart ZZZZ

The thermal oil system emergency generator (ID No. TOSEG), fire water pump engine (ID No. 5000-100) and standby generator engine (ID No. 4763-100) are subject to the MACT requirements under the "National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines," 40 CFR Part 63 Subpart ZZZZ. All engines are existing sources under the MACT.

The standby generator engine (ID No. 4763-100) is a 760 horsepower engine. As specified in 40 CFR 63.6590(b)(3)(iii), an existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions does not have to meet the requirements of MACT Subpart ZZZZ, including initial notification. The thermal oil system emergency generator (ID No. TOSEG) and fire water pump engine (ID No. 5000-100) are both less than 500 hp and do have to meet the requirements of the MACT. The following provides an overview of the requirements under MACT Subpart ZZZZ for these engines:

- Install a non-resettable hour meter on the engine and record hours of operation.
- Change oil and filter every 500 hours of operation or annually, whichever comes first.
- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace if necessary.
- Operate a maximum of 100 hours for maintenance and readiness testing.
- Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first.

- Conduct other required recordkeeping and reporting.

The permit was updated to reflect recent rule changes and the current permitting language for MACT Subpart ZZZZ. Continued compliance is anticipated.

MACT Subpart DDDDD

As part of the review for this permit renewal/modification, DAQ reviewed the applicability of wet cells Nos. 1, 2, and 3 (ID Nos. 3311, 3321, and 3331) to 40 CFR 63 Subpart DDDDD, "NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters," while operating in the Alternating Operating Mode. MACT Subpart DDDDD is subject to industrial, commercial, or institutional boilers or process heaters as defined in 40 CFR 63.7575 located at a major source of HAP. However, boilers or process heaters that are affected sources subject to other MACTS are not subject to MACT Subpart DDDDD, as per 40 CFR 63.7491(h).

Weyerhaeuser-Elkin is a major source of HAPs and is subject to the PCWP MACT. As specified in 40 CFR 63.2232(b), affect sources under the PCWP include drying operations, including any combustion unit exhaust stream routinely used to direct fire process units. Thus, the wet cells are clearly subject to the PCWP MACT when operating in Primary Operating Mode because their exhaust provides heat to rotary drum dryers (i.e., direct-fired dryers).

The status of the Dryer Bypass Mode is not as clear. The preamble to the PCWP MACT discusses situations like the wet cells, where the emissions are exhausted to the direct-fired dryers or to the atmosphere. The preamble indicates the final PCWP rule regulates only that portion of emissions from a combustion unit that are routed through the direct-fired dryers. Any emissions from a combustion unit that are not routinely exhausted through the direct-fired dryers would be subject to MACT Subpart DDDDD.

The preamble also acknowledges circumstances when the MACT Subpart DDDDD may not apply. For those occasions when a facility must shut down its direct-fired dryers but still wants to operate the combustion unit to heat oil for the press, the facility could propose in its SSM plan to route exhaust through the thermal oil heater (and then to the atmosphere) during these periods. The permitting authority would then decide on a facility-specific basis if heating of the thermal oil heater (and the associated uncontrolled emissions) should be allowed during dryer SSM considering the amount of time that this condition occurs, the fraction of combustion unit Btu used to heat the thermal oil heater, and the type of control used to reduce combustion unit emissions.[8]

Thus, the DAQ, as the permitting authority, can make a facility-specific determination regarding the status of the Dryer Bypass Mode. According to Weyerhaeuser-Elkin, wet cell emissions only exhaust to the bypass stacks when the dryers are not operating, which occur during brief periods of scheduled maintenance on the dryers (1 to 2 hours every other week) or during brief periods of start-up, shutdown, and malfunction. Since 2011, the total time the dryers were bypassed ranged from about 1% to about 3% of total operating time of the dryers on an annual basis. The wet cells are controlled via multicyclones (ID Nos. 3340-100, 3340-200, and 3340-300) when bypassing the dryers and must meet BACT limits, NSPS Subpart Dc (Wet Cell No. 3), and other regulations under Section 2.1 A of the permit. Further, Weyerhaeuser-Elkin has already incorporated the Dryer Bypass Mode into the SSM plan for its dryers. Given the limited time in bypass mode, the level of controls, and the inclusion in the SSM plan, the DAQ has determined the wet cells are not subject to MACT Subpart DDDDD during the Dryer Bypass Mode.

[8] 69 Fed. Reg. 45944-46045 (July 30, 2004)

Finally, the validity of the SSM provisions under the PCWP MACT were reviewed under this permit renewal/modification. The D.C. Circuit Court of Appeals issued a mandate vacating the SSM exemptions contained in the General Provisions of the NESHAP, 40 CFR 63.6(f)(1) and 63.6(h)(1) on October 16, 2009.[9] The vacatur directly affects the NESHAP source categories/subparts that only incorporate the SSM provisions under 40 CFR 63.6(f)(1) and 63.6(h)(1) by reference and that contain no other source specific exemption for SSM events. The Court's vacatur does not directly impact those source categories that include a separate exemption or otherwise excuse compliance during SSM events because these other provisions were not challenged.

Since their adoption in 1994, 40 CFR 63.6(f)(1) and 63.6(h)(1) have exempted sources from the NESHAP emission limits during SSM events; however, other provisions have required sources to minimize emissions during such events. Now sources which relied solely on 40 C.F.R. §§ 63.6(f)(1) and 63.6(h)(1) for a SSM exemption must comply with their NESHAP limits during SSM events because the Court found that the NESHAP must apply continuously in accordance with Section 112 of the Clean Air Act.

Adam Kushner, U.S. EPA Director of Civil Enforcement, issued a guidance letter on July 22, 2009 that identifies the specific source categories U.S. EPA has identified as being affected by the Court's vacatur (see Table 1 of the Kushner Letter).[10] The PCWP MACT is not one of the so called "Table 1 MACTs" that are directly affected by the Court's vacatur, and the SSM provisions under the PCWP MACT are valid.

PSD

Surry County is designated as in attainment. Weyerhaeuser-Elkin is a major stationary source under PSD and has previously undergone PSD analyses and accepted BACT limits for several of its emission sources. The table below provides on overview of the existing BACT limits in the permit.

Emission Source	Permit Condition	Limitations[1]
Drum Dryers (ID Nos. 1611, 1621, and 1631) Suspension Burners (ID Nos. 3811, 3821, and 3831) Wet Cells (ID Nos. 3311, 3321, and 3331) in Primary Operating Mode	2.1 A.7.	PM/PM10 (filterable only) 40.3 lbs/hr, 24-hour averaging period (before RTO control emission rate) CO 498.3 lbs/hr, daily divided by operating hours per day averaging period (before RTO control emission rate) NOx 33.44 lbs/hr, 12-month rolling averaging period (before RTO control emission rate) Visibility 20% opacity

[9] Sierra Club v. EPA, 551 F.3d 1019 (D.C. Cir. 2008).

[10] A copy Mr. Kushner's letter can be accessed at: http://www.epa.gov/oecaerth/civil/caa/ssm-memo080409.pdf.

Emission Source	Permit Condition	Limitations[1]
Wet Cells (ID Nos. 3311, 3321, and 3331) in Dryer Bypass Mode		PM/PM10 (filterable only)[2] Wood combustion emission rate: 11.17 lbs/hr each, 24-hour averaging period Oil combustion emission rate: 7.38 lbs/hr (Wet cells No. 1 and No. 2), 24-hour averaging period 9.23 lbs/hr (Wet cell No. 3), 24-hour averaging period Visibility 20% opacity
OSB Press (ID No. 4301)	2.1 B.3	PM/PM10 11.71 lbs/hour, 24-hour averaging period (before biofilter) VOC 99.44 lbs/hour, 12-month rolling averaging period (before biofilter) Visibility 20% opacity Production Limitation 450,000,000 square feet equivalent on a 3/8 inch basis at 42 pounds per cubic foot, annually
OSB Operation (ID No. B2801)	2.1 C.3	PM/PM10 0.24 lbs/hour, 24-hour averaging period Visibility 20% opacity
OSB Operation (ID No. B2811)		PM/PM10 0.347 lbs/hour, 24-hour averaging period Visibility 20% opacity
OSB Operation (ID No. B2831)		PM/PM10 0.072 lbs/hour, 24-hour averaging period Visibility 20% opacity
One Wood Sander Operation (ID No. B2841)		PM/PM10 0.138 lbs/hour, 24-hour averaging period Visibility 20% opacity
OSB Operation (ID No. B2807)		PM/PM10 0.37 lbs/hour, 24-hour averaging period Visibility 20% opacity

Emission Source	Permit Condition	Limitations[1]
OSB Operation (ID No. B2627)		PM/PM10 0.212 lbs/hour, 24-hour averaging period Visibility 20% opacity
Fire Water Pump Engine (ID No. 5000-100)	2.1 D.3	PM/PM10 0.5 lbs/hour, 24-hour averaging period CO 1.6 lbs/hour, daily divided by operating hours per day averaging period VOC 0.6 lbs/hour, 12-month rolling averaging period Visibility 20 percent opacity Production limit 500 hours per consecutive twelve-month period
Standby Generator (ID No. 4763-100)		Production limit 4,330 hours per consecutive twelve-month period

Notes:
1. All BACT limits were included in the initial TV permit, Air Permit No. 05678T25, issued on December 31, 2003.
2. The BACT limits for particulate matter for the wet cells (ID Nos. 3311, 3321, and 3331) were revised under Air Permit No. 05678T30 issued on March 24, 2006. Wet cells Nos. 1, 2, 3 (ID Nos. 3311, 3321, 3331) were modified to address back pressure issues when the wet cell exhaust streams enter the dryer systems.

The permit requires periodic testing of the drum dryers (ID Nos. 1611, 1621, and 1631), the suspension burners (ID Nos. 3811, 3821, and 3831), and the wet cells (ID Nos. 3311, 3321, and 3331) to demonstrate compliance with the BACT limits for PM (i.e., operation in the Primary Operating Mode). Initial testing for PM emissions from these combined sources emitted through the WESP was conducted on November 5, 2008. The permit requires subsequent testing by November 5, 2018 or after 7,000 hours of emissions exiting the WESP stack since the November 5, 2008 test, whichever occurs first.

Weyerhaeuser-Elkin must also demonstrate compliance with the BACT limit for PM for the wet cells in the Dryer Bypass Mode. Testing two of the three wet cells while operating in the Dryer Bypass Mode is required once per permit cycle. The most recent testing results are provided below and demonstrate compliance with the BACT limits. Continued compliance with these limits as well as the all monitoring, recordkeeping, and reporting requirements for all the BACT limits noted above is anticipated.

Emission Source	Test Date	Results	Emission Limit	Compliance Indicated?
Wet Cell No. 2	April 19 and 20, 2016	6.83 lb/hr	11.17 lb/hr	Yes
Wet Cell No. 3		5.22 lb/hr	11.17 lb/hr	Yes

Notes:

- The results of the April 2016 testing were approved by Brent Hall of SSCB and summarized in a memoranda dated June 2, 2016

PSD Avoidance

The facility is a major stationary source under PSD and has accepted PSD avoidances under 02Q .0317 for past projects. The table below provides details on the avoidance conditions and provides information on the reason the limits were added to the permit.

Emission Source	Permit Condition	Avoidance Limits	Comments
Drum Dryers (ID Nos. 1611, 1621, and 1631) Suspension burners (ID Nos. 3811, 3821, and 3831) Wet Cells (ID Nos. 3311, 3321, and 3331) Fire Water Pump Engine (ID No. 5000-100) Standby Generator (ID No. 4763-100)	2.2 A.1	SO_2 40 tons per consecutive 12-month period	The PSD avoidance limit was included in the initial TV permit, Air Permit No. 05678T25, issued on December 31, 2003.
Drum Dryers (ID Nos. 1611, 1621, and 1631) Suspension burners (ID Nos. 3811, 3821, and 3831) Wet Cells (ID Nos. 3311, 3321, and 3331)	2.1 A.11	VOC 456.69 tons per consecutive 12-month period	A PSD avoidance limit of 903.5 tons VOC per consecutive 12-month period was included in the initial TV permit, Air Permit No. 05678T25, issued on December 31, 2003. The initial TV permit was adjudicated. In subsequent permits, the avoidance limits for VOC was revised to 456.69 by subtracting all the emissions from all affected units, except drum dryers, wet cells, and suspension burners. See permit review for Air Permit No. 05678T25 for more detail. (Charlie Yirka, 03/24/2006).

15A NCAC 02D .0530(u)

Weyerhaeuser-Elkin has previously used PAE to demonstrate projects were not major modifications under PSD, as allowed under 02D .0530(u). The table below provides more details about the 02D .0530(u) conditions remaining in the permit under this permit renewal/modification.

Emission Source	Permit Condition No.	Limitations (tons/yr)	Comments/Background
Drum Dryer No. 3 (ID No. 1631)	2.1 A.8	PM 165.67 PM10 159.68 PM2.5 153.53 NOx 53.60 SO2 10.51 CO 557.01 VOC 280.36	The 02D .0530(u) condition was added under Air Permit No. 05678T36 issued on July 14, 2011. The project was for the replacement of an existing drum dryer No. 3 (ID No. 1631) with a new, single pass dryer. See permit review for Air Permit 05678T36 for full discussion. (Rahul Thaker, 07/14/2011).
OSB Press (ID No. 4301)	2.1 B.4	CO 601 NOx 56 PM 233 PM-10 216 PM-2.5 201 SO2 1.8 VOC 687 Lead 9.97E-03 H2SO4 6.95E-04 CO2 70,348 CH4 8.9 N2O 4.3 CO2e 71,853	The 02D .0530(u) condition was added under Air Permit No. 05678T43 issued on October 2, 2015. The project was for repair of the OSB press, and Weyerhaeuser-Elkin expected some increase in utilization upon repairs. See permit review for Air Permit 05678T43 for full discussion. (Joseph Voelker, 10/02/2015).

On August 27, 2008, Air Permit No. 05678T33 was issued to the Weyerhaeuser-Elkin, in part, for the replacement of drum dryers No. 1 and 2 (ID No. 1611 and 1621) and the addition of the biofilter (ID No. 3470) as control device to control emissions from the OSB press (ID No. 4301). The facility used PAE of VOC to demonstrate the modification was not significant under PSD.[11] Recordkeeping and reporting requirements for emissions and production were incorporated in Section 2.2.E.1 in the permit. The facility submitted annual reports containing these records for a period of five years. Throughout the reporting period, the total actual emissions of VOC were below the total PAE. The last report was received on January 23, 2013, fulfilling the recordkeeping and reporting requirements. Accordingly, this permit condition will be removed under this permit renewal/modification.

112(r)

The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in 112(r). This permit renewal/modification does not affect the 112(r) status of the facility.

CAM

40 CFR Part 64 is applicable to any pollutant-specific emission unit, if the following three conditions are met:

- the unit is subject to any (non-exempt: e.g. pre November 15, 1990, Section 111 or Section 112 standard) emission limitation or standard for the applicable regulated pollutant.

[11] Gautam Patnaik (8/27/2008).

- the unit uses any control device to achieve compliance with any such emission limitation or standard.
- the unit's pre-control potential emission rate exceeds either 100 tpy (for criteria pollutants) or 10/25 tpy (for HAPs).

The permit review for the prior TV permit renewal provides a detail discussion of CAM applicability to emission sources and controls at Weyerhaeuser-Elkin.[12] No emission sources subject to CAM have been added to the permit since that time. The table below provides and overview of emission sources subject to CAM. With respect to PM emissions, both the cyclone and WESP are subject to CAM, but in this case, the CAM requirements are applied only to the WESP, as it is the most downstream PM emission control (excluding any effect of the RTO). The CAM conditions were revised for clarity under this permit renewal/modification. Continued compliance is anticipated.

Emission Source Description	Control Device Description	Pollutant	Regulation
Drum Dryer No. 1 (ID No. 1611) Suspension Burner No. 1 (ID No. 3811) Wet Cell No. 1 – Primary Operating Mode (ID No. 3331)	one simple cyclone (ID No. 1611-150) in series with one wet electrostatic precipitator (ID No. 3450) in series with	PM	15A NCAC 02D .0503 15A NCAC 02D .0504 15A NCAC 02D .0515 15A NCAC 02D .0530
Drum Dryer No. 2 (ID No. 1621) Suspension Burner No. 2 - (ID No. 3821) Wet Cell No. 2 – Primary Operating Scenario (ID No. 3321)	one simple cyclone (ID No. 1621-150) in series with one wet electrostatic precipitator (ID No. 3450) in series with		
Drum Dryer No. 3 (ID No. 1631) Suspension Burner No. 3 (ID no. 3831) Wet Cell No. 3 – Primary Operating Scenario (ID No. 3331)	one simple cyclone (ID No. 1632-150) in series with one wet electrostatic precipitator (ID No. 3450) in series with		
Wet Cell No. 1 Dryer Bypass Mode (ID No. 3311)	one multicyclone (ID No. 3340-100)	PM	15A NCAC 02D .0503 15A NCAC 02D .0504 15A NCAC 02D .0530
Wet Cell No. 2 Dryer Bypass Mode (ID No. 3321)	one multicyclone (ID No. 3340-200)		
Wet Cell No. 3 Dryer Bypass Mode (ID No. 3331)	one multicyclone (ID No. 3340-300)		
OSB operation consisting of woodroom, conversion, and finishing (ID No. B2801)	one simple cyclone (ID No. 2821-401) one simple cyclone (ID No. 2803) in series with one bagfilter (ID No. 2801)	PM	15A NCAC 02D .0512 15A NCAC 02D .0530
OSB operation consisting of woodroom, conversion, and finishing (ID No. B2811)	one simple cyclone (ID No. 2035) one simple cyclone (ID No. 2812)		

[12] Joseph Voelker (04/27/2012).

Emission Source Description	Control Device Description	Pollutant	Regulation
	one simple cyclone (ID No. 2814) in series with one bagfilter (ID No. 2811)		
OSB operation consisting of woodroom, conversion, and finishing (ID No. B2831)	one simple cyclone (ID No. 2813) one simple cyclone (ID No. 2821-301) one simple cyclone (ID No. 2832) in series with one bagfilter (ID No. 2831)		
one wood sander operation (ID No. B2841)	one simple cyclone (ID No. 2842) in series with one bagfilter (ID No. 2841)		
OSB operation consisting of woodroom, conversion, and finishing (ID No. B2807)	one simple cyclone (ID No. 2804) in series with one bagfilter (ID No. 2807)		
OSB operation consisting of woodroom, conversion, and finishing (ID No. B2627)	one simple cyclone (ID No. 2617) in series with one bagfilter (ID No. 2627)		

8. Facility Wide Air Toxics

Air Permit No. 05678T40 was issued on October 2, 2013 as a significant modification, in part, to remove NC Air Toxics emission limits for MACT-affected sources. As indicated in the review for that permit,[13] the facility demonstrated that when operating at maximum permitted capacity and combusting the maximum permitted amount of alternative fuels, the modeled concentrations of all TAPS were emitted at rates resulting in ambient impacts less than their respective acceptable ambient levels (AAL). Benzene and formaldehyde emissions resulted in the largest ambient impacts, and both impacts were less ~ 60 percent of their respective AAL.

Some sources of TAPs are not MACT-affected, and the permitted emission rates for these sources remain the permit. No monitoring, recordkeeping and reporting are required to ensure compliance with NC air toxics for these sources. Continued compliance is anticipated.

The facility has also previously demonstrated emissions of several other TAPS are less than their Toxic Emission Permitting Rates (TPERS). This condition is applicability facility-wide and will remain in the permit under this renewal/modification. Continued compliance with 15A NCAC 02Q .0711, Emission Rates Requiring a Permit, is anticipated.

9. Facility Emissions Review

Potential emissions have not changed under the TV permit renewal/modification. Actual emissions from Weyerhaeuser-Elkin are reported in the header of this permit review.

[13] Joseph Voelker (10/02/2013).

10. Compliance Status

During the most recent inspection, conducted on May 25, 2016 by Robert Barker of the WRSO, the facility appeared to be in compliance with all applicable requirements. Additionally, a signed Title V Compliance Certification (Form E5) indicating that the facility was in compliance with all applicable requirements was included with the applications for permit renewal and for modification.

11. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 02Q .0521 above. Virginia is an affected State and Forsyth County is an affected Local Program within 50 miles of this facility and will be notified accordingly.

12. Other Regulatory Considerations

- A P.E. seal is NOT required for these applications.
- A zoning consistency determination is NOT required for these applications.
- A permit fee is required for the "Part 2" application of the two-step significant modification pursuant to 15A NCAC 02Q .0502(c)(2). A permit fee of $922 was received with the permit application for modification on August 8, 2016.

13. Recommendations

The permit renewal/modification applications for Weyerhaeuser NR Company - Elkin Facility in Elkin, Surry County, NC have been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ has determined that this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. The DAQ recommends the issuance of Air Permit No. 05678T44.

Attachment 1
Table of Changes

Previous Permit		New Permit		Description of Changes
Page No.	**Section**	**Page No.**	**Section**	
Cover and throughout	--	Cover and throughout	--	Updated all dates and permit revision numbers.
--	Insignificant Activities List	--	Insignificant Activities List	• Updated footnotes. • Updated the hydraulic oil storage tanks by adding a tank in the finishing operations and one in the woodroom, 380 gallons each (ID No. I-HOST). • Four used oil storage tanks used through the mill- 260 gallons each (ID No. I-UOS).
--	Table of Contents	--	Table of Contents	Added Section 2.3, Permit Shield for Non-Applicable Requirements.
3 – 5	1.0 – Equipment List	3 – 5	1.0 – Equipment List	• Replaced "fuel oil" with "No. 2 fuel oil" in emission source descriptions for drum dryers, suspension burners, and wet cells in the table and throughout the permit. • Changed the name of the "Alternative Operating Mode" of the wet cells (ID Nos. 3311, 3321, and 3331) to "Dryer Bypass Mode" in table and throughout permit. • Removed debarking unit (ID No. 1134). • Removed asterisks and associated footnote indicating control devices (ID Nos. 2821-401 and 2821-301) are listed as a minor modification per 15A NCAC 02Q .0515 • Removed asterisks and associated footnote requiring the Permittee to submit a Title V Air Quality Permit Application on or before 12 months after commencing operation of the OSB Press (ID No. 4301). Submittal of Air Permit No. 8600108.16B on August 8, 2016 fulfilled this requirement.
--	2.1	--	2.1	Changed "condition" references (e.g., "condition a") to "Section" references (e.g. "Section 2.1 A.3.a") throughout Section 2.1.
6	2.1 A Equipment List	6	2.1 A Equipment List	Added control devices for the emission sources subject to requirements in Section 2.1 A.

Previous Permit		New Permit		Description of Changes
Page No.	**Section**	**Page No.**	**Section**	
6 – 8	2.1 A. – Regulations Table	7 – 8	2.1 A. – Regulations Table	• Added both equations under 15A NCAC 02D .0515, as specified in the body of the permit. • Added reference to 15A NCAC 02Q .0508(j) for recordkeeping when changing operating scenarios. • Specified the limits under BACT, rather than only citing the section reference. • Reordered the references so they follow the order in the permit. • Removed reference to 15A NCAC 02Q .0317 for PSD avoidance under Section 2.2.E.1. This is an incorrect reference, as it should be 02D .0530(u). Also, the requirement for tracking the projected actual emission has been fulfilled, and the permit condition is no longer necessary.
9	2.1 A.2.c	--	--	• Removed extraneous statement regarding testing under 15A NCAC 02D .0530. • Renumbered permit condition accordingly.
9	2.1 A.2.d	9	2.1 A.2.c	Clarified language regarding monitoring, recordkeeping, and reporting.
10	2.1 A.3.c	--	--	• Removed extraneous statement regarding testing under 15A NCAC 02D .0530. • Renumbered permit condition accordingly.
10	2.1 A.3.d	10	2.1 A.3.c	Clarified language regarding monitoring, recordkeeping, and reporting.
11	2.1 A.5.c	11	2.1 A.5.c	Clarified language regarding monitoring, recordkeeping, and reporting.
14	2.1 A.7.e	14	2.1 A.7.e	Modified the requirement to submit results of maintenance performed on emissions sources within 30 days rather than 60 days of a written request by the DAQ. Thirty days is the standard requirement for such submittals.
14 – 15	2.1 A.7.g, h. and i	14	2.1 A.7.g, h. and i	Reformatted and updated testing language for 15A NCAC 02D .0530.
15	2.1 A.7.k	15	2.1 A.7.k	Reformatted and updated monitoring language for 15A NCAC 02D .0530.
17	2.1 A.7.r	16	2.1 A.7.r	Modified the requirement to submit results of maintenance performed on control devices within 30 days rather than 60 days of a written request by the DAQ. Thirty days is the standard requirement for such submittals.
17	2.1 A.7.u	16	2.1 A.7.u	Removed language for establishing "normal" visible emission for the wet cells. These emission sources have been in operation for more than 30 days.
18	2.1 A.9.b	17	2.1 A.8.b	Specified that the five years of required recordkeeping under 15A NCAC 02D .0530(u) ends in 2016.
18	2.1 A.9.c	17	2.1 A.8.c	Specified that the final report under 15A NCAC 02D .0530(u) is due on or before March 1, 2017.

Previous Permit		New Permit		Description of Changes
Page No.	**Section**	**Page No.**	**Section**	
19	2.1 A.10.a	17 – 18	2.1 A.9.a	Listed the emission sources and control devices in the Primary Operating Mode subject to 15A NCAC 02D .0614, Compliance Assurance Monitoring.
40 – 41	2.2 B	20	2.A.11	• Moved the PSD avoidance condition from Section 2.2 B to section 2.1 A.11 because this condition applies only to the emission sources listed in Section 2.1 A. • Renumbered permit accordingly
40	2.2 B.1.b	21	2.2 A.11.b	• Added a statement that the VOC monthly calculations must be recorded in a logbook. • Added a statement that the Permittee must attached the approval memorandum to the permit upon receipt of an approved test that demonstrates different operating temperature of the RTO.
18	2.1 A.8	22	2.1 A.12	• Corrected reference for alternative operating scenarios to 15A NCAC 02Q .0508(j). • Moved the permit condition to correspond to the order of the 15A NCAC regulations.
22	2.1 B – Regulations Table	22	2.1 B – Regulations Table	• Added reference to 15A NCAC 02D .0515. • Removed reference to recordkeeping and reporting under 15A NCAC 02D .0530(u) found in Section 2.2.E.1. These requirements have been fulfilled. • Removed reference to 15A NCAC 02Q .0501/.0504. This requirement was met with the submittal of Permit Application No. 8600108.16B.
25	2.1 B.3	22 – 23	2.1 B.1	Moved the permit condition to correspond to the order of the 15A NCAC regulations.
25	2.1 B.3.c	23	2.1 B.1.c	• Clarified language regarding monitoring, recordkeeping, and reporting. • Deleted reporting requirement and combined the requirements under 2.1 B.1.c.
23	2.1 B.1.c	23	2.1 B.2.c	Clarified language regarding monitoring, recordkeeping, and reporting.
24	2.1 B.2.g	24	2.1 B.3.g	Updated permit condition for visible emission observations to standard permitting language.
25	2.1 B.2.k	25	2.1 B.3.k	Reformatted reporting permit condition.
26	2.1 B.5	--	--	Removed permit condition for submittal of a permit application under 15A NCAC 02Q .0501/.0504. This requirement was met with the submittal of Permit Application No. 8600108.16B.
28	2.1 C.1.b	26	2.1 C.1.b	Clarified language regarding monitoring, recordkeeping, and reporting.
28	2.1 C.2.c	27	2.1 C.2.c	Clarified language regarding monitoring, recordkeeping, and reporting.

Previous Permit		New Permit		Description of Changes
Page No.	**Section**	**Page No.**	**Section**	
29	2.1 C.3.d through g	28	2.1 C.3.d and e	• Consolidated inspection, maintenance, and recordkeeping requirements for the cyclones and the bagfilters. • Renumbered the remaining conditions accordingly.
30	2.1 C.3.h	28	2.1 C.3.f	Modified the requirement to submit results of maintenance performed on control devices within 30 days rather than 60 days of a written request by the DAQ. Thirty days is the standard requirement for such submittals.
30	2.1 C.3.k	28	2.1 C.3.i	Updated permit condition for visible emission observations to standard permitting language.
34	2.1 D.3.d	31	2.1 D.3.c	Moved noncompliance statement from reporting requirement to monitoring and recordkeeping requirements.
34	2.1 D.3.d	31	2.1 D.3.d	Clarified and reformatted the reporting requirements.
35	2.1 D.4.a	32	2.1 D.4.a	Updated applicability statement for 40 CFR 63, Subpart ZZZZ "NESHAP for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines" for engines (ID No. 4763-100).
35	2.1 D.5	32 – 34	2.1 D.5	Updated entire permit condition for 40 CFR 63, Subpart ZZZZ "NESHAP for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines" for engines (ID Nos. 5000-100 and TOSEG).
38	2.1 E	35	2.1 E	Removed debarking unit (ID No. 1134) throughout permit condition.
--	2.2	--	2.2	Changed "condition" references (e.g., "condition a") to "Section" references (e.g. "Section 2.2 A.1.a") throughout Section 2.2.
40	2.2 A.1.g.i.(A)	36	2.2 A.1.g	Moved requirement to calculate SO2 emissions to recordkeeping requirements under Section 2.2 A.1.g.
43	2.2 C.1.m	39	2.2 B.1.n	Added a statement that the Permittee must attached the approval memorandum to the permit upon receipt of an approved test that demonstrates different operating temperature of the RTO.
43	2.2 C.1.n.iii	39	2.2 B.1.o.iii	Added a statement that the Permittee must attached the approval memorandum to the permit upon receipt of an approved test that demonstrates different minimum and/or maximum biofilter bed temperatures.
51	2.2.E	--	--	Removed permit condition for tracking projected actual emissions under 15A NCAC 02D .0530(u). This requirement has been fulfilled
--	--	46	2.3	Added Section 2.3, Permit Shield for Non-Applicable Requirements, for applicability of the Wet Cells to MACT Subpart DDDDD.
52 – 61	3.0	47 – 56	3.0	Updated General Conditions and List of Acronyms with most current version (Version 4.0 12/17/2015)